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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,734	09/29/2000	Jeffery P. Robert	02690.002	2819

7590 11/06/2002

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EXAMINER

FORTUNA, ANA M

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 11/06/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/674,734

Applicant(s)
Robert et al

Examiner
Ana Fortuna

Art Unit
1723



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 16, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above, claim(s) 10-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) ✓
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 and 4
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1723

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

2. Claims 1, 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Al-Samadi et al (5,501,798) (hereinafter '798). Reference '798 discloses a membrane system comprising at least one ultrafiltration membrane in series with at least one reverse osmosis membrane (Fig. 2, column 5, lines 31-68, and column 6, lines 1-8). As to claims 4-7, reference '798 discloses the membranes as being made of polymeric or ceramic material, which inherently possesses the high temperature resistant properties claimed (column 7, lines 56-65).
3. Claims 1, 2, 3, are rejected under 35 U.S.C. 102(b) as being anticipated by Ladha et al (4,000,065)(hereinafter '065). Reference '065 discloses the system having ultrafiltration in series connected to reverse osmois membranes (Fig. 2, column 5, lines 43-68, and column 6, lines 1-14). Reference '065 also teaches with reference to claims 2 and 3, increasing the number of such a membrane units as needed to achieve a desired capacity (column 10, lines 63-68, and column 11, lines 1-2).
4. (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Art Unit: 1723

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 4-7 are rejected under 35 U.S.C. 102(e) as being anticipated by DeFrees (6,454,946) (hereinafter '946). '946 discloses the apparatus comprising ultrafiltration membrane and reverse osmosis or nanofiltration membrane in series (abstract). The membrane is made inorganic materials, e.g. ceramics, glasses, metals, etc, or polymer, e.g polysulfone, polyamides, etc. (column 4 lines 1-68, and column 9, lines 25-36). The nanofiltration membrane as non-compacting are disclosed, e.g. DESAL RO membranes from Osmonics, as discussed in the prior section, column 9, second paragraph). Ceramic and polysulfone membrane are inherently high temperature resistant material, therefore, these properties are inherent of the membranes suggested for the ultrafiltration and reverse osmosis of '946.

6. Claim 1 rejected under 35 U.S.C. 102(b) as being anticipated by Been Huang Chiang et al ("Ultrafiltration and Reverse Osmosis of ...Potato Starch Process).(hereinafter Chiang). Chiang discloses a system combining ultrafiltration and reverse osmois for treating waste water from starch base potato (pages 971-973, column 1 (Fig. 6).

Art Unit: 1723

Claim Rejections - 35 U.S.C. § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Al-Samadi et al (5,501,798(hereinafter '798), or DeFrees (6,454,946) (hereinafter '946), and Been Huang Chiang et al (hereinafter (Chiang). Reference '798 does not clearly teaches multiple ultrafiltrations or reverse osmosis in the ultrafiltration/reverse osmosis series in the apparatus or system. Using multiple membranes in the system of '798 will be cumulative. It would have been obvious to one skilled in the art at the time the invention was made to use a plurality of membranes in parallel or series, e.g. for handling larger volumes of the fluid to be treated by the membrane, and or producing a high quality permeate from the system in series.

Reference '946 also fails to disclosed performing his separation process in the apparatus comprising ultrafiltration and reverse osmosis membranes in series, with a plurality of ultrafiltration and reverse osmosis membranes. The duplication of parts or membranes in the apparatus is cumulative, and for a series arrangement, a more purified product, from stages, e.g. permeate from the ultrafiltration stage, and permeate from the reverse osmosis stage it would have been expected by one skilled in the pertinent art at the time the invention was made.

Art Unit: 1723

Further using multiple membranes as need for handling large volumes of waste water in the system of Chiang , it would have been obvious to one skilled in the art at the time the invention was made, for the reasons discussed above.

Note that the intended use "for treating starch based potato process water", does not limit the structure of the apparatus, which allowability is determined based on structure.

9. References 5,885,461 is also cited as suggesting the combination of ultrafiltration and reverse osmosis for treatment of waste water or sludge and avoid water contamination.

10. Applicant's election with traverse of in Paper No. 8 is acknowledged. The traversal is on the ground(s) that the Examiner fails to show that the system can be used to practice a another an materially different process. This is not found persuasive because the systems as shown in the references applied ain the Office Action above, and teachin the combination of ultrafiltration and reverse osmosis, can be use in conventional waste waer treatment from other sources, treatment of animal waste, polyol plant waste waers, waste containing inorganic contaminants, sugar contianing streams, etc..

The requirement is still deemed proper and is therefore made FINAL.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana Fortuna whose telephone number is (703) 308-3857. The examiner can normally be reached on Monday-Friday from 9:30 to 6:00.

Art Unit: 1723

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (703) 308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for regular responses, and (703)872-9311 for after finals.

Ana Fortuna

November 01, 2002


ANA FORTUNA
PRIMARY EXAMINER